Biovigyanam, 18(2): 116-118, 1992

Diurnal Intra- and Interspecific Assemblages of Indian Mynas

Several birds have tendencies of gathering or assembling together either in the feeding arenas during daytime or at communal roosts at night. Number of workers such as Lister (1954 a and b), Murton (1971), Zahavi (1971), Ward and Zahavi (1973), Gadgil and Ali (1975), Gadgil (1976), have pointed out such assemblages of birds with their probable functions. Counsilman (1974) while studying the waking and roosting behaviour of Indian Mynas in Aukland, New Zealand has stated their significance of gathering before roosting. Khera and Kalsi (1986) have also indicated the importance of gathering before roosting and mixed roosts while studying the roosting behaviour of Bank Mynas. The omnivorous bird like the Indian Myna, *Acridotheres tristis* (Linnaeus) [Sturnidae: Passeriformes] exhibits this tendency of gathering or gregariousness.

The present note deals with observations on the assemblages of Indian Mynas with individuals of their own species (intraspecific) as well as with other species of birds (interspecific) at various times of the day. The study was carried out in Pune (18° 33'N and 73°53'E), Maharashtra during the years 1974-1980.

Intraspecific Assemblages — The daily activities of mynas start at dawn. They leave the roost in the morning and disperse into their feeding arenas by choosing some directional routes. While following these routes, mynas gathered in groups between 20 and 180 on trees (may be termed as 'halting points'), halt for some time and then fly on to the next halting point.

During mid-day, solitary and paired mynas from neighbouring areas were observed to assemble (8 to 30 in numbers) on some trees such as Mango (*Magnifera indica*), Tamarind (*Tamarindus indica*), Coconut (*Cocus nucifera*), Neem (*Azadirecta indica*), and Banyan (*Ficus bengalensis*). Such mid-day assemblages have been termed as "secondary roosts" by Ward and Zahavi (1973), where mynas take a afternoon-nap, preen themselves and make a low-pitched communal noise. Number of such secondary roosts were noticed in and around the city throughout the year and repeatedly year after year.

Mynas start their roostward journey in the late afternoon. The stationary mynas on the ground or on the trees were often observed to join a flock flying overhead while returning to the roost. The attraction thus generated by flying flocks increases with the size of the flock. The flocks of mynas begin to arrive and gather in the vicinity of the roost in the evening. They build up their strength (this may vary from 50 to 1000) before flying into the communal roost; but this behaviour was not noticed in their breeding season during April to July. Counsilman (1974) has also inferred that a gathering of Indian Mynas before roosting is essentially a large and fairly stationary flock. Further, Khera and Kalsi (1986), have pointed out that during non-breeding season, the Bank Mynas *Acridotheres ginginianus* congregate in large numbers before roosting, however, such gathering does not take place in the breeding season.

Ultimately, mynas return to their communal roosts in the late evening for communal night sleep. They were noticed to roost at 12 permanent communal roost in Pune city where congregations of mynas varied from 100 to 10,800 at a time.

Interspecific Assemblages — During the fruiting season of Banyan trees (*Ficus bengalensis*), the number of mynas were found to assemble together with a number of other species of birds to exploit the fig fruits and insects thereby. The total number of birds at such assemblages at any one time ranged between 20 and 200 birds of different species (Mahabal, 1977).

Such interspecific assemblages of mynas were also observed on trees like Silk Cotton (*Salmalia malabaricum*) and Flame of Forest (*Butea monosperma*) which blooms in the months of February to April. Various species of birds visited these trees regularly in the morning and often in the afternoon for nector feeding. The bird species other than Indian Mynas were mainly Brahminy Myna, *Sturnus pagodarum* (Gmelin); Rosy Pastor, *Sturnus roseus* (Linnaeus); Jungle Myna, *Acridotheres fuscus* (Wagler); Red-vented Bulbul, *Pycnonotus cafer* (Linnaeus); and Crimsonbreasted Barbet, *Megalaima haemacephala* (P.L.S. Müller). The birds such as Black Drongo *Dicrurus adsimilis* (Bechstein) and House Sparrow, *Passer domesticus* (Linnaeus) visited these trees to catch the insects disturbed by movements of other birds. House Crow *Corvus splendens* Vieillot and Roseringed Parakeet *Psittacula krameri* (Scopoli) were occasionally noticed to feed on petals of these flowers. Further, it was noticed that the flocks of various species of mynas and Rosy Pastors visit these trees by rotation. When flocks of two different species of mynas arrived at the same time, interspecific interactions (pushing, threatening each other by making harsh noise, direct attack or chasing) were observed, in which Indian Mynas were found to be the most aggressive species.

Besides these crowded assemblages on trees, some sparse associations of mynas were also seen commonly with the birds such as Pond Heron, *Ardeola grayii* (Sykes); Cattle Egret, *Bubulcus ibis* (Linnaeus); Little Egret, *Egretta garzetta* (Linnaeus); and Redwattled Lapwing *Vanellus indicus* (Boddaert) on river beds, by the side of nallas and in agricultural fields during daytime. Blue Rock Pigeon *Columba livia* Gmelin, Indian Koel *Eudynamys scolopacea* (Linnaeus), Brahminy Myna and House Sparrow were noticed regularly with Indian Mynas on roof tops of buildings and on T.V. antennas.

Indian Mynas were also observed to form nocturnal mixed communal roosts with other species of birds such as Pond Heron, Cattle Egret, Little Egret, Roseringed Parakeet, Brahminy Myna, Rosy Pastor, Jungle Myna and House and Jungle Crow, either seasonally or throughout the year.

The formation of intraspecific assemblages of Indian Mynas during daytime and at night strongly indicate that they possess tendency of gathering or gregariousness. This tendency of gathering is not only observed at the level of intraspecific but also at interspecific level as mynas were noticed to form mixed flocks during daytime while exploiting the food and mixed roosts at night. Ward and Zahavi (1973) have suggested that bird assemblages have been evolved primarily for the efficient exploitation of unevenly distributed food sources by serving as " information-centres." Counsilman (1974) has stated that gathering before roosting provide protection from predators and communal sleeping protects Indian Mynas more from predators than if they slept solitarily. Khera and Kalsi (1986) believed that protection from predators and an efficient anti-predator mecha-

nism are the functions of pre-roost gathering and mixed roosts in Bank Mynas respectively. Likewise, it is possible that intra- and interspecific assemblages of Indian Mynas increase the awareness of individual birds and thus afford some kind of protection.

Anil Mahabal

High Altitude Zoology Field Station
Zoological Survey of India
Solan 173 212, *India*

REFERENCES

COUNSILMAN, J. J. 1974. Waking and roosting behaviour of the Indian Myna. *Emu.*, 74: 135-148.

GADGIL, M. 1976. On mixed species assemblages of birds. *Newsletter for Birdwatchers*, 16(3): 6-7.

GADGIL, M. & ALI, SALIM 1975. Communal roosting habits of Indian birds. *J. Bom. nat. Hist. Soc.*, 72:716-727.

KHERA, S. & KALSI, R. S. 1986. Waking and roosting behaviour of the Bank Myna, *Acridotheres ginginianus*, in Chandigarh, and surrounding areas. *Pavo.*, 24: 55-68.

LISTER, M. D. 1954(a). Some bird associations of Indian cultivated and waste lands. *J. Bom. nat. Hist. Soc.*, 51: 19-28.

LISTER, M. D. 1954(b). Some bird associations of Indian built up areas. *J. Bom. nat. Hist. Soc.*, 51:369-377.

MAHABAL, ANIL 1977. Interspecific assemblages of birds. *Newsletter for Birdwatchers*, 17(6): 5.

MURTON R. K. 1971. Why do some bird species feed in flocks? *Ibis.*, 113: 534-536.

WARD, P, & ZAHAVI, A. 1973. The importance of certain assemblages of birds as "information-centres" for food finding. *Ibis.*, 115: 517-534.

ZAHAVI, A. 1971. The function of pre-roost gatherings and communal roosts. *Ibis.*, 113: 106-109.

(*Received September* 20, 1991; *revised June* 26, 1992)